

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



December 12, 2007

Mr. John Woolard, Chief Executive Officer
Solar Partners, LLC
1999 Harrison Street, Suite #500
Oakland, California 94612

Dear Mr. Woolard:

DOCKET
07-AFC-5DATE DEC 12 2007RECD. DEC 12 2007**DATA REQUESTS 1 THROUGH 116 FOR THE IVANPAH SOLAR ELECTRIC GENERATING SYSTEM (ISEGS) (07-AFC-5)**

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff is asking for the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (#1-116) is being made in the areas of project description/plan of development, air quality, biological resources, cultural resources, land use, traffic and transportation, transmission system engineering, waste management, water and soil resources and visual resources. Written responses to the enclosed data requests are due to the California Energy Commission (CEC) and Bureau of Land Management (BLM) staff on or before January 12, 2008, or at such later date as may be mutually agreeable. Responses to all data requests will be distributed to the BLM staff upon receipt.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner Jeffery Byron, Presiding Committee Member for the Ivanpah Solar Electric Generating System project, and to me, within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions, please call me at (916) 653-0062, or email me at jcaswell@energy.state.ca.us.

Sincerely,

Original Signed in dockets 12/12/07

Jack W. Caswell, Project Manager
California Energy Commission

Enclosure
cc: Dockets 06-AFC-9

**IVANPAH SOLAR ELECTRIC GENERATING SYSTEM
(07-AFC-5)
DATA REQUESTS**

Technical Area: Project Description

Author: Jack W. Caswell (CEC) and George Meckfessel (BLM)

BACKGROUND

In Section 2.0 Project Description, page 2-3, 2.2.1 of the Application for Certification (AFC) under the 2.2 Generating Facility Description, Design, and Operation section heading, you have requested a right-of-way use permit for 7,040 acres of land within the project's property boundary from the Bureau of Land Management (BLM). The project operations require 3,400 acres of land as identified in the same section. Staff is unclear on the project's need for such a large land use request given the project's construction and operational needs.

DATA REQUEST

1. Please provide a justification for requesting a right-of-way use permit for 7,040 acres of land from the BLM when the AFC identifies 3,400 acres necessary for the plant construction and operation.
2. Per your justification for the 7,040 acres requested from the BLM, please provide a detailed identification of all construction and ground disturbance activities that will be conducted on the additional 3,640 acres request.
3. Provide a detailed discussion for all measures intended for mitigating impacts from the project's construction and ground disturbance activities on the additional 3,640 acres.

BACKGROUND

Plan of Development, 2.2 Process Description cites " Additional heliostats would be located outside the power block perimeter road, focusing on the reheat tower. Their locations are not shown on the drawings, because they would be finalized only after power block equipment outlines and elevations are finalized."

DATA REQUEST

4. Cite maximum acreage and location of "additional" heliostats located outside the power block road and plot area on the project maps.

BACKGROUND

Plan of Development, 2.15.2 Construction Sequencing, Site Disturbance stet that ephemeral channel banks would require minimal grading. Site Stabilization cites that relatively small rock filters and local diversion berms through the solar fields would discourage water from concentrating to maintain sheet flow. Demobilization cites that a batch plant would be established outside plant entrance gate.

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DATA REQUEST

5. a. Describe and plot the location and dimensions of the batch plant,
- b. Describe measures to prevent off site discharge of waste effluent.

BACKGROUND

Plan of Development, 2.15.3 Distributed Power Tower and Heliostat Erection cites that excavation spoils would be stored in an approved area of the site. Heliostat Construction cites a pre-casting shed would be adjacent to the batch plant, outside the plant entrance.

DATA REQUEST

6. Describe and plot spoils storage location, confirming the location would be located within the proposed project footprint or an added acreage.

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Technical Area: Air Quality

Author: Tuan Ngo (CEC)

BACKGROUND

Facility Operational Emissions

The AFC does not appear to document or estimate emissions from vehicles and equipment used to provide maintenance of the solar mirrors. For examples, there is no mention of the frequency of washing the mirrors and whether associated vehicle and equipment activity would cause emissions of NO_x, VOC and PM₁₀, and how much. Thus, the facility operational emissions may not be fully quantified.

DATA REQUEST

7. Please provide a description of the facility maintenance activities, including, but not limited to, cleaning the solar mirrors, vegetation suppression, grading if any, reapplication of dust suppressants, and the number of equipment and/or vehicles utilized for such activities.
8. Provide an estimate of emissions of NO_x, VOC and PM₁₀, including fugitive PM₁₀, cause by the maintenance equipment, vehicles and activities.

BACKGROUND

Facility Emission Impacts May Be Underestimated

Calculations of criteria air contaminants, provided in the AFC and its appendices, for the facility appeared to be underestimated. Page 5.1-27 of the AFC states that the construction of each phase of the facility would last approximately 24 months, and that overlapping of construction of the three phases would occur. However, the air quality impact analysis, contained in the AFC, includes two distinct, separate phases of construction and operation as if they are not overlapping. Because of this, staff believes that the facility operational emission impacts may be underestimated.

DATA REQUEST

9. Please provide a revised air quality impact analysis to identify the facility's impacts for two special cases:
 - a. when Ivanpah 1 is in operation (including emissions identified in Data Requests 1 and 2) and Ivanpah 2 is under construction; and
 - b. Ivanpah 1 and 2 are operational (including emissions identified in Data Requests 1 and 2) and Ivanpah 3 is under construction.

BACKGROUND

NO₂ Impacts Modeling Analysis

The air quality modeling analysis uses the plume volume molar ratio method (PLMRM) adaptation of the ozone limiting method to assess the facility's NO₂ emission impacts (AFC, page 5.1-38). The data used in this analysis are collected from Barstow, which is

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110 miles away from the facility. Absent from this analysis is a qualitative analysis to demonstrate that whether the use of Barstow ambient air quality data is appropriate for the project site. Without such analysis, staff cannot determine that the results of the submitted NO₂ impact analysis are accurate.

DATA REQUEST

10. Please provide a qualitative analysis to demonstrate the appropriate use of ambient air quality data, collected at the Barstow monitoring station, for the project's NO₂ emission impacts.

BACKGROUND

Cumulative Impacts Analysis

Section 5.1.7 of the AFC states that a cumulative impact analysis would be performed after all necessary data from the Mojave Desert Air Quality Management District are received. It is not clear whether construction and operational emissions from a photovoltaic facility being proposed to be built near the Ivanpah site would be considered in the analysis.

DATA REQUEST

11. Please provide a specific date when the cumulative impact analysis would be performed and submitted.
12. Please include the construction and operational emissions from the proposed nearby photovoltaic facility in the cumulative impact analysis; or if they are not included discuss the rationale for exclusion.

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Technical Area: Biological Resources

Authors: Colin Grant (BLM), Charles L. Sullivan III (BLM), and N. Misa Ward (CEC)

BACKGROUND

There are significant populations of Sahara mustard, schismus, and cheatgrass in the project region. One of the BLM's primary responsibilities is to curtail the spread of invasive species for a number of reasons. For example, invasive species increase fire risk, reduce natural habitat for native plants and wildlife, and compete with native plants for water and other resources. On AFC page 5.2-60, section 5.2.11.2 Mitigation Measure 2 - Noxious Weeds states that a Noxious Weed Control Plan will be prepared and submitted to BLM prior to construction. However, BLM needs to review a draft Weed Management Plan sooner to facilitate completion of the final plan according to the template BLM provided to the applicant. Similarly, information on the soil source(s) for foundations and structural support is needed because soils brought in from another location will have to be tested for invasive species seeds and other contents.

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13. Please prepare and submit a Weed Management Plan to the Energy Commission and BLM that includes herbicides to be used in control methods.
14. Describe specific methods for weed management under heliostat structures (e.g., pre-emergent herbicide or other methods).
15. Provide details on the origin of soil sources, including discussion of whether soil will be obtained from within the project footprint and/or transported in from another location.

BACKGROUND

AFC Table 5.2-15 provides an overview of permits required for biological resources and indicates that the process for each requires approximately six to nine months. The AFC also refers to informal consultation with staff members at agencies regarding the project and potential biological issues of concern. However, staff could not find any documentation on the dates, personnel, and content of communications with the California Department of Fish and Game (CDFG), U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or U.S. Fish and Wildlife Service (USFWS) regarding sensitive biological resources, such as the federally threatened desert tortoise, jurisdictional waters, and permitting requirements. In addition, a USFWS-approved Biological Assessment (BA) with agreed upon mitigation needs to be provided so the Preliminary and Final Staff Assessments can be completed.

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16. Please provide any documents (i.e., letters or records of conversation including dates and names of agency personnel) that resulted from communication with CDFG, RWQCB, USACE, and USFWS staff regarding sensitive biological resources and jurisdictional waters.
17. Provide status and progress updates on the anticipated schedule (including estimated dates) for submitting the BA and consulting with CDFG regarding rare plant and desert tortoise impacts.
18. Clarify the status and anticipated schedule (including estimated dates) of USACE, RWQCB, and CDFG permitting for (and verification of) project activity affecting jurisdictional waters. This response may be prepared in conjunction with the responses to related Soils and Water Resources data requests.
19. For jurisdictional waters, please provide expected impact acreages as well as mitigation ratios and acreages for the Clean Water Act section 401 and 404 permits and CDFG Streambed Alteration Agreement, as appropriate.
20. Provide copies of the draft and final USFWS-approved BA, including required habitat compensation ratios and acreages, to Energy Commission and BLM staff.

BACKGROUND

Certain common California desert plants protected under the California Desert Native Plants Act and San Bernardino County Development Code (title 8, division 9, chapter 4, section 89.0420) require a permit from the Agricultural Commissioner or other applicable County Reviewing Authority prior to removal or harvesting. In the project area these include cacti, Mojave yucca, and any creosote bush rings ("creosote rings") above a 10-foot diameter. Although creosote bush grows throughout the project area, the applicant did not state whether any creosote rings were searched for or documented.

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21. Please state the number of creosote rings found in the project area. If any are present, please provide mapped locations and size estimates.
22. Provide a description of the proposed project's conformance with the California Desert Native Plants Act and the San Bernardino County Development Code, expected impacts, and specific mitigation.

BACKGROUND

According to AFC section 5.2.9.2.4, approximately 34 percent of the estimated known acreage of creosote bush-white bursage-barrel cactus vegetation in California could be impacted by the project. This vegetation type is noted as worthy of consideration in the list of terrestrial natural communities developed for CDFG's California Natural Diversity Database, and BLM has expressed concerns regarding its loss and the availability of

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habitat compensation lands. The impact discussion noted a lack of information regarding its abundance and did not conclude whether impacts would be considered significant or require additional mitigation.

DATA REQUEST

23. Please provide additional discussion on direct, indirect, and cumulative impacts to creosote bush-white bursage-barrel cactus vegetation.
 - a. Address the significance of these impacts as determined through discussions with BLM, CDFG, and USFWS biology staff.
 - b. Discuss the mitigation suggested by the above agencies to mitigate impacts.

BACKGROUND

The AFC lacks a detailed project description for the following elements as they relate to biological resources: site runoff, pre-construction ground disturbance, and post-construction operations and maintenance activities. More information is needed for staff to determine whether these elements could result in additional impacts to biological resources. In addition, BLM needs this information for its consultation with USFWS on the effects of the proposed action on desert tortoise. BLM expressed concern regarding the formal consultation process with USFWS because other agencies may recommend project footprint changes, and it may be necessary to re-initiate the consultation process and biological evaluation.

DATA REQUESTS

24.
 - a. Please provide a detailed description and analyze the associated biological resource impacts related to site runoff from rainfall and mirror washing.
 - b. Down slope of the project, address the biological resource impacts and ground disturbance anticipated outside the 3,400-acre project site.
25. Provide a detailed description and analyze the associated biological resource impacts related to ground disturbance within the heliostat array fields (AFC page 5.2-2).
26. Provide a graphic and description of areas of the site that will be graded and areas where root systems will be left in place, and indicate other areas of ground disturbance.
27. Provide a detailed description and analyze the associated biological resource impacts related to concrete drying beds (AFC section 2.2.7.4.4 Drying Beds).
 - a. Please describe the nature of the water to be evaporated.
 - b. Quantify the concentrations of minerals that would result.

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- c. Discuss whether the concentrations would be toxic to wildlife, and if so, how the applicant will prevent use by birds and other wildlife.
 - d. Discuss the species, if any, which would be attracted to drying beds, and whether they would they be impacted.
 - e. Address whether drying beds are synonymous with “evaporation pits” labeled in AFC figure 2.2-1b. If not, please provide descriptions and biological resource impact assessments for each.
28. Please provide a detailed description and analyze the associated biological resource impacts related to ground disturbance from post-construction operations and maintenance activities including those at the following locations:
- a. facility perimeter fences
 - b. roadways between the three proposed phases
 - c. the new segment of gas pipeline
 - d. the new water pipeline.

BACKGROUND

As noted in the AFC, ravens are known to prey upon juvenile desert tortoise and other wildlife species. However, ravens are a migratory species and federally protected under the Migratory Bird Treaty Act. Perch-deterrent device installation is mentioned in the AFC on page 5.2-67, but the facilities upon which they would be installed are not specified. In addition, CDFG commented in a March 23, 2007 letter on Victorville 2, another desert solar project, regarding the need for a sufficiently detailed raven control plan.

DATA REQUEST

29. Please provide a detailed raven control plan that discusses, but is not limited to the following elements:
- a. coordination process with CDFG and USFWS
 - b. area to be covered by the plan
 - c. use of perch-deterrent devices and locations of installation
 - d. circumstances when nest removal would be necessary
 - e. remedial actions that would be employed if evidence of raven predation of juvenile desert tortoise is detected and the circumstances that would trigger the implementation of remedial actions

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- f. facility/project owner staff expected to implement the raven control plan and their qualifications.

BACKGROUND

AFC section 5.2.11.1, Mitigation Measure 1 – Site Rehabilitation Plan, addresses closure of the project following the cessation of facility operations and discusses elements of a project closure plan. Permanent closure is an issue of concern regarding biological resources due to the proposed facility location on a relatively large and undisturbed habitat area as well as the potential threats to biological resources posed by abandoned equipment and hazardous materials.

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- 30. Please describe the likely components of a closure plan (e.g., decommissioning methods, timing of any proposed habitat restoration, restoration performance criteria), and discuss each relative to biological resources and specifically to desert tortoise and its habitat.
- 31. Describe the potential funding (e.g., a performance bond) and/or legal mechanisms for decommissioning and restoration of the project site that could be used:
 - a. at the end of operations; and
 - b. in the event of bankruptcy or the untimely project closure for financial reasons.
- 32. Please provide a discussion of facility closure requirements of the BLM, County of San Bernardino, USACE, USFWS, CDFG, and any other agency that may have closure requirements.

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Technical Area: Cultural Resources

Authors: Beverly E. Bastian (CEC), Michael D. McGuirt (CEC) and Sarah C. Murray (BLM)

BACKGROUND

Table 5.3-3 (p. 5.3-17), entitled “Summary of Sites within 1 Mile of the Project Area of Potential Effect,” includes a column for National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR) eligibility status for the eight previously recorded cultural resource sites listed. The sites are indicated as “Eligible” or “Not Eligible,” in the table, with no indication there or in the discussion of these sites (which follows) of who made the eligibility determination or when. Staff needs more complete information on the eligibility status of these sites to complete its analysis.

DATA REQUEST

33. Please provide the date of the eligibility determination and the name and qualifications (where available) of the evaluator for each of the listed resources.

BACKGROUND

Figure A-1, in the confidential cultural resources technical report (Appendix 5.3B), depicts the footprint of the proposed Ivanpah 1 site and the locations of the newly identified and recorded cultural resources, indicated as purple lines labeled with resource numbers. There is a purple diamond in the northeast corner of the Ivanpah 1 footprint that is not labeled. Staff needs to know if there is an additional newly identified cultural resource at this site.

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34. Please provide three copies of Figure A-1 revised to identify the potential new cultural resource represented by a purple diamond in the northeast corner of the Ivanpah 1 footprint labeled.
35. If a Department of Parks and Recreation Form 523 for this potential new resource has not been provided previously, please provide three copies of it.

BACKGROUND

Cultural resource CA-SBR-10315 (Boulder Dam-San Bernardino 115-kV transmission line) is an extant and functioning transmission line, originally built between 1930 and 1931 and determined eligible for the NRHP under criterion A (associated with events that have made a significant contribution to the broad patterns of our history). The AFC’s cultural resources discussion of cultural resource CA-SBR-10315 (p. 5.3-18) indicates that the project will tie into this historic and NRHP-eligible transmission line to interconnect to the Southern California Edison (SCE) grid. The AFC’s electrical transmission discussion of the tie-in (p. 3-1) states that the transmission line into which ISEGS will interconnect is the El Dorado-Mountain Pass 115-kV line. The discussion provides further details of the interconnection, including the replacement of the existing 115-kV transmission line with a double-circuit 220-kV line and the addition of a circuit to

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the existing pole line to increase the capacity of the existing El Dorado-Mountain Pass 115-kV line heading southwest. Staff needs to know whether these proposed SCE replacement and upgrading activities would impact the historic and NRHP-eligible cultural resource CA-SBR-10315.

DATA REQUEST

36. Please provide a detailed description of SCE's planned replacements for and upgrades to the Boulder Dam-San Bernardino 115-kV transmission line.

BACKGROUND

The cultural resources discussion of cultural resource CA-SBR-10315 (AFC pp. 5.3-18–5.3-19) indicates that this line would be the interconnection point for the ISEGS power output. The discussion also includes the statement that the electrical tie-in would not be an adverse impact because “the physical lines and towers are not considered contributing elements to the significance of the site under criterion A.” Staff needs further information on this resource and this assessment of impact.

DATA REQUEST

37. Please provide a discussion by a qualified architectural historian of the proposed project's impact on resource CA-SBR-10315, addressing integrity in transmission lines under criterion A and the extent of replacement or modification to resource CA-SBR-10315 required for the proposed project's electrical connection.
38. Please provide the qualifications of the architectural historian who assessed the proposed project's impact on resource CA-SBR-10315.
39. Please provide a copy of the NRHP nomination for this resource.

BACKGROUND

The three phases of the proposed project, Ivanpah 1–3, are to be built on a bajada, a broad apron of sediment that fronts a mountain range, immediately to the west of the Ivanpah Lake playa, a shallow ephemeral lake bed. Since the construction of the project appears to include the contouring of the surface of the site for each project phase, the excavation of trenches for the installation of a natural gas pipeline, and the construction of new site access roads, the consideration of the potential presence of buried archaeological deposits becomes relevant. If the depositional environment across the project site is one of net aggradation or ongoing thickening of surface sediments, archaeological deposits related to the use of former bajada surfaces may lie beneath the present surface of the project site. Staff needs additional information to evaluate the potential for encountering buried archaeological deposits during the construction, operation, and maintenance of the project.

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DATA REQUEST

40. Please provide a discussion of the historical geomorphology of the project site to better evidence a consideration of the potential there for buried archaeological deposits. The discussion should describe the development of the bajada on which the project area is proposed with a focus on the character of the bajada's depositional regime since the Late Pleistocene era. The basis for the discussion should be data on the geomorphology, sedimentology, pedology, and stratigraphy of the project area or the near vicinity. The source of these data may be a combination, as necessary, of extant literature or primary field research.

BACKGROUND

The construction of the project may produce a stark visual intrusion in the viewshed of the portion of Ivanpah Valley around the Ivanpah Lake playa. Appendix 5-3B does not consider whether the project has the potential to affect Native American traditional use areas in this viewshed. Staff needs additional information to evaluate the proposed project's potential to adversely impact potentially significant ethnographic resources.

DATA REQUEST

41. Please provide discussions, on the basis of extant literature and Native American contacts, of known traditional use areas such as rock art sites, shrines, or gathering places in the viewshed of the project that may be subject to the project's visual intrusion, and of the potential presence or absence of other such areas in that viewshed.

BACKGROUND

5.3.3.5.1 Archive Research (Records search conducted for the project). BLM policy includes a standard for cultural resources survey reports that requires a section on previous research (records search) for the project area vicinity, as does CA State Historic Preservation Office (February 1990 *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*). The BLM Cultural Resources Specialist needs a map showing previously surveyed areas and previously recorded sites within one mile of the project area, showing the project area.

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42. Please provide a confidential map showing the project area including:
- a. all previous cultural resource surveys conducted within one mile
 - b. all previously recorded sites within one mile of the project area, as referenced in the application

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Technical Area: Land Use

Author: Amanda Stennick (CEC) and George Meckfessel (BLM)

BACKGROUND

As stated in the AFC, the July 2002 Northern and Eastern Mojave Desert Management Plan (NEMO) amends the BLM California Desert Area Conservation Plan (CDCA) for the area identified as the Northern and Eastern Mojave Desert. The ISEGS site is located in the southeastern portion of the NEMO Planning Area Boundary. The NEMO Plan addresses threatened and endangered species conservation and recovery and adoption of public land health standards, evaluation of segments for eligibility in the National Wild and Scenic river system, and changes resulting from the California Desert Protection Act passed in 1994. The NEMO Plan also designates routes of travel in Desert Wildlife Management Areas consistent with Federal regulations.

The management of backcountry roads and trails (routes) is an important part of BLM's management of public lands. The use of these routes by Off Highway Vehicles (OHV) and related established recreation activity is a major concern for the BLM. The Ivanpah Valley falls within the NEMO plan amendment area and includes routes of travel designated for OHV use in that land use plan amendment. The ISEGS project overlays several of these routes. The analysis for the project will need to consider the impact to these designated routes and their uses. Where use, if any, will be allowed through or in the vicinity of the project, special prescriptions will need to be discussed. Where use would be discontinued, alternative means of transportation will need to be described. Finally, because the use of routes is such a sensitive subject for the public, consideration should be given to conditions of approval which serve to ensure continued existence of this recreation.

DATA REQUEST

43. Please provide a description of the proposed project's conformance with the Northern and Eastern Mojave Desert Management Plan, including provision for solar electrical generating facilities.
44. Provide a complete inventory and assessment of travel routes within and adjacent to the planning area using the California BLM Route Inventory Data Dictionary.
45. Identify all routes that would be closed due to development of the facility.
46. Identify all routes that would be rerouted and would be proposed for new alignment.
47. Identify all routes that would remain open to the public.

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48. Identify all fencing, gates, and dust abatement measures that would be taken to manage use of routes designated open within and adjacent to the facility.
49. Please develop appropriate mitigation for numbers 42 through 45.

BACKGROUND

As stated in the Ivanpah Solar Electric Generating System (ISEGS) AFC, the ISEGS site is located within areas in the CDCA that are designated Multiple-Use Class L (Limited Use) and Multiple-Use Class M (Moderate Use) according to the CDCA Map 1 Land-Use Plan 1999 (BLM, 1999). The Energy Production and Utility Corridors Element of the CDCA Plan (BLM, 1999) states that the BLM focuses on the same factors affecting public lands and their resources as those used by the CEC. These factors include: (1) consistency with the CDCA Plan, including the designation of proposed planning corridors; (2) protection of air quality; (3) impact on adjacent wilderness and sensitive resources; (4) visual quality; (5) fuel sources and delivery systems; (6) cooling-water source(s); (7) waste disposal; (8) seismic hazards; and (9) regional equity.

DATA REQUEST

50. Please provide description of the proposed project's conformance with the CDCA Plan, including provision for solar electrical generation facilities located in lands designated as multiple use class L and M (Table 1). Discuss the need to amend the plan (Energy Production and Utility Corridors Element, Implementation page 95 and Decision Criteria, page 93) and the proposed schedule for the amendment process.

BACKGROUND

As stated in the AFC, the ISEGS site is located within the existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003). The ISEGS 7,040-acre BLM (11 square miles) property boundary area is part of a larger 97,560-acre (150 square miles) grazing lease.

Pursuant to 43 CFR 4100, Section 4110.4-2(2)(b) Grazing Administration, the process to withdraw a BLM grazing lease to allow development requires a 2-year notification be given to the lease holder prior to the start of development. This notification would inform the lease holder that a portion of the grazing lease has been withdrawn. It is also possible for the grazing lessee to waive notice. It may be necessary for BLM to issue a decision with regard to removing land from the grazing allocation as part of the ISEGS Record of Decision.

DATA REQUEST

51. Please state which of the above methods (i.e., notification of withdrawal of a portion of the grazing lease), will be used to withdraw the ISEGS site from the existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003).

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52. Provide any written documentation that would address or explain the method described in the data request above.

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Technical Area: Soils and Water Resources

Author: Christopher Dennis, P.G. (CEC), Colin Grant (BLM), George Meckfessel (BLM), and Kenneth Downing (BLM)

BACKGROUND

As described in the October 18, 2007 RWQCB letter (posted on the CEC's project webpage), specific post-construction stormwater controls are not discussed in the AFC. The RWQCB requires Low Impact Development (LID). The goal of LID is to maintain landscape functionality equivalent to predevelopment hydraulic conditions and minimize the generation of non-point source pollutants. To accomplish these goals, LID principles include:

- Helping maintain natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge.
- Reducing the impervious ground cover created by development of the project and the associated transportation network.
- Managing runoff as close to the source as possible.

CEC and BLM staff need to see how principals of LID will be incorporated into the project design. Natural drainage features and patterns must be maintained to the extent feasible. Staff needs to evaluate designs that minimize impervious surface, such as permeable surface parking areas, directing runoff onto vegetated areas using curb cuts and rocks, swales, etc., and infiltrating runoff as close to the source as possible to avoid forming erosion channels.

The project must incorporate measures to ensure that stormwater generated by the project is managed onsite during both pre-construction and post-construction with development features that span the drainage channels or allow for broad crossings. Design features should be incorporated to ensure that runoff is not concentrated by the proposed project, thereby causing downstream erosion.

A draft copy of the Industrial Stormwater Pollution Prevention Plan (SWPPP) is presented as Appendix 5.15A. Section 2.4 (Description of Storm Drainage System and Outfalls) of the Industrial SWPPP discusses the proposed project grading and control measures for managing stormwater runoff. The project is proposing to maintain existing sheet flow conditions where possible, except in the power block area. Section 5.11.6.2 (Permanent Erosion Control Measures) of the AFC discusses in general terms the type of permanent soil erosion control measures that can be expected at the project site and that will be included as part of the final SWPPP.

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DATA REQUEST

53. Please provide a project grading plan.¹
54. Provide an appropriately scaled detailed drawing of the location of all project access routes and indicate whether these are paved, graveled, or graded. This should include the access routes to and between the heliostat mirrors.
55. Provide a calculation of the amount and area of compacted soils resulting from biweekly traverses by a truck mounted tanker for washing of heliostat arrays and cutting of vegetation.
56. Provide a discussion and calculations establishing that the proposed stormwater management system has sufficient capacity for a 100-year flood storm.

BACKGROUND

To determine the potential erosion impacts to water and soil resources from construction of the project, the California Energy Commission (CEC) requires a draft Drainage Erosion and Sediment Control Plan (DESCP). The draft DESCP is to be updated and revised as the project moves from the preliminary to final design phases and is to be a separate document from the construction Storm Water Pollution Prevention Plan (SWPPP). The final DESCP, submitted prior to site mobilization, must be developed and signed by a professional engineer/erosion control specialist.

DATA REQUEST

57. Please provide a draft DESCP containing elements A through I listed below. These elements will outline site management activities and erosion/sediment control Best Management Practices (BMPs) to be implemented during site mobilization, excavation, construction, and post-construction activities. The level of detail in the draft DESCP should correspond to the current level of planning for site construction and corresponding site grading and drainage. Please provide all conceptual erosion control information for those phases of construction and post-construction that have been developed or provide a statement when such information will be available.
 - a. Vicinity Map: A map(s) at a minimum scale 1"=100' shall be provided indicating the location of all Project elements and depictions of all significant geographic features including swales, storm drains, and sensitive areas.
 - b. Site Delineation: All areas subject to soil disturbance, such as the construction area, laydown area, parking area, all linear facilities, and landscaping areas shall be delineated showing boundary lines and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

¹ Response to this item can be addressed in the draft Drainage Erosion and Sediment Control Plan requested in #55.

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- c. Watercourses and Critical Areas: The DESCP shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. Indicate the proximity of those features to the Project construction, laydown, and landscape areas and all transmission and pipeline construction corridors.
- d. Drainage Map: The DESCP shall provide a topographic site map(s) at a minimum scale 1"=100' showing existing, interim, and proposed drainage systems and drainage area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off-site for a minimum distance of 100 feet in flat terrain.
- e. Drainage of Project Site Narrative: The DESCP shall include a narrative of the drainage measures to be taken to protect soil and water resources onsite and downstream. The narrative shall include a summary of the hydraulic analysis prepared by a professional engineer/erosion control specialist. The narrative shall state the watershed size in acres that was used in the calculation of drainage measures. The hydraulic analysis should be used to support the selection of BMPs and structural controls to divert off-site and on-site drainage around or through the construction and laydown areas.
- f. Clearing and Grading Plans: The DESCP shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross-sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Illustrate existing and proposed topography tying in proposed contours with existing topography.
- g. Clearing and Grading Narrative: The DESCP shall include a table with the quantities of material excavated or filled during construction in all area such as the construction area, laydown area, and transmission and pipeline corridors. This table shall identify whether the materials removed and brought in were temporarily or permanently added or removed and the amount of such material brought in or removed.
- h. Best Management Practices Plan: The DESCP shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction, initial grading, project element excavation and construction, and final grading/stabilization. BMPs shall include measures designed to prevent wind and water erosion. Treatment control BMPs used during construction should enable testing of groundwater and/or stormwater runoff prior to discharge.
- i. Best Management Practices Narrative: The DESCP shall show the location (as identified in H above), timing, and a maintenance schedule of all erosion and sediment control BMPs to be used prior to initial grading, during project

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excavation and construction, final grading/stabilization, and post-construction. Separate BMP implementation schedules shall be provided for each phase of construction. The maintenance schedule should include post-construction maintenance of structural control BMPs or a statement provided when such information will be available.

BACKGROUND

Approximately 3,400 acres of land will be disturbed by the project construction activity. Section 5.11.4.6 (Construction) of the AFC states that "...substantial water erosion and dust control measures will be required to prevent an increased dust load and sediment load to ephemeral washes on and off the project site." In section 4.2.4 (Erosion Control) in the AFC, year-round and rainy season erosion control practices are discussed. To the extent not discussed in Item 57 above, please provide the following information.

DATA REQUEST

58. Describe in detail the purpose, construction, and effectiveness of the controls to protect slopes susceptible to erosion and the controls to stabilize non-active areas, and provide an appropriately scaled map showing the location and engineering drawings illustrating the construction of these controls.*
59. Describe and illustrate the measures to maintain the integrity of existing onsite and adjacent offsite drainages and how existing drainages would be altered.*
60. Describe and illustrate the purpose, construction, and effectiveness of proposed rock filters, local diversion berms, and how existing drainage patterns would be altered.*

BACKGROUND

Section 5.11.4.6 (Construction) of the AFC discusses stockpiling soil from grading operations. An estimated 156,875 cubic yards of material will be cut and reused as fill at the site. The cut soil will have to be stockpiled at a staging area prior to use as fill, and the topsoil will be separately stockpiled from the underlying soil. In addition, an estimated 412,600 cubic yards of vegetation will be generated and available as mulch for erosion control. To minimize and control soil erosion and transport, a DESCP and SWPPP would be developed.

DATA REQUEST

61. Discuss how the site will be "balanced" between the shortfall of cut soil to fill soil.
62. Please provide details for soil sources addressing whether soil will be obtained locally or transported in from another location.
63. Describe and illustrate the soil stockpile staging locations, confirming the locations would be within the proposed project footprint or within an area to which the applicant has legal access.

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BACKGROUND

A Federal Clean Water Act section 401 certification may be required. If there are potential impacts to surface waters (perennial and ephemeral) of the State and/or Waters of the United States, such as drainages, streams, washes, ponds, pools, and wetlands, this certification will be required from the RWQCB. These impacts need to be quantified and mitigated. Please refer to:

http://www.waterboards.ca.gov/lahontan/401WQC/401WQC_Index.htm.

DATA REQUEST

64. Please discuss in detail whether a 401 certification is required. If required, please discuss compliance with the RWQCB requirements discussed on the following RWQCB webpage:
<http://www.waterboards.ca.gov/lahontan/401WQC/401instructions2app.pdf>.
65. Submit a jurisdictional delineation to the USACE, a section 401 water quality certification application to the RWQCB, and a Streambed Alteration Notification package to the CDFG. Provide copies of all these documents to the BLM and CEC. This response may be prepared in conjunction with the response to related Biological Resources data requests.

BACKGROUND

Section 3.2.2 (Heliostat Erection) of Appendix 5.15A of the AFC discusses the use of at least two pre-casting assembly sheds for each heliostat construction. These pre-assembly sheds will be approximately 100 feet by 100 feet and used for pre-casting heliostat bases and for assembling heliostat structures to mirrors.

DATA REQUEST

66. Please describe and illustrate the dimensions of the pre-casting sheds.
67. Please provide a map showing the shed locations.

BACKGROUND

San Bernardino County Ordinance No. 3872 applies to groundwater management in the unincorporated, non-adjudicated desert region of the county. San Bernardino County (County) and Bureau of Land Management (BLM) have entered into a Memorandum of Understanding (MOU) that provides that BLM will require conformance with County Ordinance No. 3872 for all projects proposing to use groundwater from beneath Public Lands. The MOU also provides that the County and BLM will work cooperatively to ensure that conditions required of project applicants will jointly conform to applicable local, state, and federal laws and regulations.

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DATA REQUEST

68. Please provide copies to the BLM of all correspondence, including applications, data, and approvals, with or between the County, for permitting water wells associated with the proposed project.
69. Discuss and provide a process diagram of the type of treatment system that will be employed to provide boiler make-up water and heliostat wash water.
70. Please provide details as to the operation of this treatment plant, including any wastewater streams that may emanate from it.
71. Address whether a reverse osmosis unit will be employed and, if so, the amount, character, and method of disposal of the wastewater, including whether return of the wastewater to the groundwater is planned.

BACKGROUND

A letter, dated October 18, 2007 by the RWQCB, reports that MolyCorp intends to resume mining operations, near the ISEGS project area, in the future. MolyCorp may resume operations and groundwater pumping, and if so, the existing nitrate groundwater contamination plume below the MolyCorp New Ivanpah Evaporation Pond may migrate. Please note that in the Groundwater Availability Report, Appendix 5.15C of the AFC, it is not clear whether the estimated future 400 acre-feet per year of groundwater pumping at MolyCorp was incorporated into the conclusions about the projects' cumulative impacts on groundwater. Also, several groundwater models and assumptions were discussed in the Groundwater Availability Report, but it is not clear what assumptions and model were used in the conclusions of the report.

DATA REQUEST

72. Please provide a revised groundwater model that assumes MolyCorp resumes operations and incorporates potential pumping at MolyCorp; or provide an explanation of how the scenario of MolyCorp renewed pumping is included in the report conclusions.
73. Provide an estimate on how the nitrate plume will be hydraulically affected.
74. Provide an explanation of why the poorer quality groundwater from the MolyCorp percolation ponds will not migrate to the area of higher groundwater quality at the edge of the Ivanpah Valley due to the projects' groundwater pumping.
75. Please quantify the impact to the wells of other groundwater users by the proposed project over the life of the project. If additional groundwater calculations are required to answer this question, please discuss the assumptions and calculations used.

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76. If the wells of other groundwater users are negatively affected by the project's use of groundwater or by the cumulative use of groundwater, please discuss the need to provide alternative groundwater well locations and the specific location of those wells.
77. Provide a comprehensive list of all existing and anticipated groundwater uses and amounts for all other planned or reasonably foreseeable developments within Ivanpah Valley. If this list is different than that used in the report, please revised the report data and conclusions accordingly.
78. Please quantify the cumulative impact by all projects discussed in section 5.15.5 (Cumulative Effects).

BACKGROUND

A letter, dated October 25, 2007 by the RWQCB, states that,

“The proposal to pump an additional 100 acre-feet per year of groundwater from the eastern edge of the Ivanpah Valley could adversely affect groundwater quality. The additional groundwater withdrawal may create a pumping depression at the edge of the Valley where the quality of groundwater is good. This may cause poorer quality groundwater in the center of the Valley to migrate to the pumping depression where the quality of groundwater is higher. At the center of the Valley, there is both naturally-occurring poor quality groundwater and groundwater whose quality has deteriorated further due to percolation of wastewater from waste disposal ponds to groundwater. The ponds are owned by Molycorp, Inc.”

DATA REQUEST

79. Please provide a detailed discussion regarding potential degradation of water quality due to the creation of a pumping depression at the edge of the Ivanpah Valley. This discussion should include an explanation of why poorer quality groundwater from the center of the valley will not migrate to the area of higher groundwater quality at the edge of the valley. This explanation may require further groundwater modeling.

BACKGROUND

Section 5.15.3.3.2 of the AFC states that each heliostat would have a raw water tank with a capacity of 250,000 gallons.

DATA REQUEST

80. Please show the location of the proposed water tanks and distribution lines on a revised Figure 5.15-2 (Major Hydrologic Features In and Near the Project Site).

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Technical Area: Traffic and Transportation

Author: Jason Ricks (CEC) and Mike Ahrens (BLM)

BACKGROUND

Section 5.12.3.2 (Existing Traffic Conditions) of the AFC states that existing daily average and peak volumes on selected roadway segments in the vicinity of the project site were obtained from Caltrans and San Bernardino County traffic counts. Peak hour volumes presented in Figures 5.12-3 and 5.12-4 indicate that 26 trips would exit Primm Valley Golf Club in the AM peak hour and that 26 trips would enter the Primm Valley Golf Club in the PM peak hour; however, average daily traffic (ADT) is not presented in the AFC. The San Bernardino County traffic website cited in the AFC indicates an ADT volume of 249 trips for Yates Well Road but does not include peak hour data.

Page 5.12-6 indicates that northbound I-15 operates at Level of Service (LOS) F on Fridays; however, volume-to-capacity ratios for I-15 are not presented.

DATA REQUEST

81. Please provide a source for the 26 peak hour trips included in the AFC or an explanation as to how that number was derived.
82. Provide the existing ADT for Primm Golf Club access road and Colosseum Road.
83. Provide existing average and peak Saturday and Sunday trips for Primm Golf Club access road and Colosseum Road.
84. Provide peak hours traffic data for Yates Well Road.
85. Please provide volume-to-capacity ratios for southbound and northbound I-15.

BACKGROUND

The assumptions on page 5.12-10 indicate the AM and PM peak hours for Primm Valley Golf Club traffic were assumed to be four hours each but does not indicate the times assumed.

DATA REQUEST

86. Please provide the assumed start and end times of the AM and PM peak hours for Primm Valley Golf Club traffic.

BACKGROUND

Page 5.12-19 of the AFC indicates that project construction traffic will result in a significant impact on Friday afternoons on northbound I-15, and suggests the applicant require the construction contractor to implement measures to minimize travel on this roadway at that time. These measures include: providing special or additional incentive

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to construction workers to use the shuttle buses (or carpool) on Fridays; communicating to workers the benefits of using the buses (including travel time savings); and identifying any limitations to the buses.

Preliminary coordination with Caltrans indicates that the measures suggested in the AFC are not likely to be effective. While these measures provide an opportunity to reduce the amount of project related traffic on this roadway, their effectiveness relies on the personal preference of construction workers. Thus, these measures do not ensure that the project's contribution to this significant impact is minimized.

DATA REQUEST

- 87. Please discuss the feasibility of alternative construction schedules for the project that would avoid impacting the northbound I-15, Friday afternoon commute.
- 88. Please provide fully enforceable mitigation measures that would eliminate or minimize the project's contribution to congestion on northbound I-15 on Friday afternoons.

BACKGROUND

According to the AFC, the project would be located in close proximity to the proposed Ivanpah Valley Airport in Ivanpah Valley, Nevada, and may also be on or near flight paths of the Jean Airport and possibly McCarran Airport in Las Vegas. All of the photographs of mirror arrays in Appendix 5.13A of Similar Solar Projects, which depict aerial views of mirror arrays, suggest a potentially high incidence of reflected glare that would affect aviation activity and safety.

Similarly, the mirror arrays would be close to the I-15 freeway and appear to have potential for reflecting glare toward freeway traffic.

DATA REQUEST

- 89. Please discuss the potential of the project to produce glare that could impair air navigation to and from each of the airports possibly affected, and if appropriate any measures necessary to avoid it.
- 90. Provide a discussion on the potential of the project to produce glare that could impair vehicle traffic on I-15, and if appropriate any measures necessary to avoid it.

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Technical Area: Transmission System Engineering

Author: Sudath Arachchige and Mark Hesters (CEC)

BACKGROUND

Staff needs to determine the system reliability impacts of the project interconnection and to identify the interconnection facilities including downstream facilities needed to support a reliable interconnection of the proposed Ivanpah Solar Electric Generating System (I SEGS). Staff requires a detailed description of the ISEGS 115 kV switchyard and interconnection facilities between generators and 115kV switchyard including major equipment and their ratings for completion of its analysis..

DATA REQUESTS

91. Please provide a complete electrical one-line diagram (or resubmit Document No. 01-PB-E-D-201 Rev. A and Document No. 07-PB-E-D-201 Rev. A) of the ISEGS 115 kV switchyard. Show all equipment for the generators' interconnection with the switchyard including any bus duct connectors or cables, 13.8kV breakers on the low side, generator step-up transformers, short overhead line or conductors with its configuration, buses, breakers, disconnect switches on the 115kV side and their respective ratings.
92. Resubmit Figure TSE-2 with the ratings of the breakers; disconnect switches and other equipments of the proposed SCE 230kV switchyard.

BACKGROUND

Staff requires the System Impact Study (SIS) and/or Facilities Study (FS) to identify potential downstream transmission facilities that may be required due to interconnection of the ISEGS to the California Independent System Operation (California ISO) grid and to determine if the interconnection would comply with the NERC/WSCC, and/or Utility planning standards and reliability criteria.

DATA REQUESTS

93. Please submit a complete SIS report prepared by Southern California Edison (SCE) and/or California ISO for interconnection of the 400 MW ISEGS based on 2010 summer peak and off peak system conditions (scheduled on-line date of the ISEGS).
 - a. The study should include a power flow, short circuit and transient stability analyses with a mitigation plan for any identified reliability criteria violations. In the report, list all major assumptions in the base cases including major path flows, major generations including queue generation and loads in the area systems.
 - b. Identify the reliability and planning criteria utilized to determine the reliability criteria violations.

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94. Provide power flow diagrams with and without the ISEGS for base cases. Power flow diagrams should also be provided for all overloads or voltage criteria violations under normal system (N-0) or contingency (N-1 & N-2) conditions
95. Provide electronic copies of *.sav, *.drw. *.dyd and *.swt GE PSLF files and EPCL contingency files in a CD (if available).
96. Provide the expected date, after contacting the California ISO, when the final interconnection approval letter from the California ISO would be issued.

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Technical Area: Visual Resources

Author: Mike Ahrens (BLM) and William Kanemoto (CEC)

BACKGROUND

The AFC presents two visual simulations of the project from Key Observation Points (KOPs) selected in discussion with staff at the Energy Commission prior to filing the AFC. We were unable to accompany applicant's staff in the initial field visit at that time due to intensive workload and scheduling conflicts. However, with further study of the project it has become apparent that additional analysis of potential impacts to viewers on Interstate 15 (I-15) is necessary. According to the California Environmental Quality Act (CEQA) Guidelines, a project may cause a significant visual impact if it would substantially degrade the existing visual character or quality of the site and its surroundings. Viewer exposure and visual quality are key factors in staff's methodology for assessing visual impacts. I-15 represents the primary entry to the city of Las Vegas. According to the AFC, viewer exposure may exceed 40,000 motorists per day, including a high proportion of tourists. In addition, the existing visual setting appears to be scenically intact. Because the nearest portions of Ivanpah 1 would fall within near-middleground distances of under one mile, it would be appropriate to include a representation of the project from I-15, and discuss the feasibility and appropriateness of considering moving Ivanpah 1 further west to reduce potential visual effects to motorists on I-15.

DATA REQUEST

97. Please provide a full-page, color simulation of the proposed project (at life-size scale when the picture is held 10 inches from the viewer's eyes) from a viewpoint on I-15 at near middleground distance of roughly 1 mile or less, along with corresponding location and camera lens information.
98. Please discuss the feasibility of siting Ivanpah 1, which is the only phase proposed within a distance zone potentially prominent to I-15, further westward outside of the near middleground distance zone of I-15.

BACKGROUND

According to the AFC (Figure 5.6-1), the proposed project lies within 1 mile of a designated National Scenic Area (NSA).

DATA REQUEST

99. Please identify and describe the NSA further and, particularly, describe any recreational trails or other potential user destinations within the NSA that would have a view of the ISEGS project.
100. Identify an appropriate range of affected viewers to base analysis upon, including recreational viewer groups in addition to golf course visitors.

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101. Discuss the potential for the project to significantly affect viewers from the Ivanpah lakebed (east and west), various backcountry routes surrounding the site, particularly to the north and west, in the Mesquite Wilderness, and the Clark Mountains within the Mojave National Preserve.

BACKGROUND

The description of the project's appearance in Section 5.13.4.4, as well as the project description, provide depictions of the power generation facilities, but very little of the mirror arrays, and none of the mirror components. However, a much better understanding of the mirror component of the project is needed to understand and evaluate the project operation and, specifically, the potential for glare impacts and glare mitigation. For example, the AFC states that the mirrors would be operated to avoid glare on I-15 and the Primm Valley Golf Club (p. 5.13-28).

DATA REQUEST

102. Please provide elevation drawings presenting the dimensions of the proposed mirror units.
103. Please provide a more detailed description of the individual and collective mirror unit control capabilities sufficient to substantiate the ability of the project to avoid creating glare in specific sensitive receptor locations.
104. Please provide a more detailed description of the criteria and methods by which avoidance of such glare on any potentially affected sensitive receptors would be accomplished.

BACKGROUND

According to the AFC, sunlight on airborne dust particles would result in visible light rays, as depicted in the visual simulations. These could represent the primary visual effect of the project.

DATA REQUEST

105. Please explain whether any modeling or other studies have been conducted to estimate the likely frequency, duration or intensity of the anticipated dust reflection.
106. To the extent possible please provide a discussion of the anticipated range of intensity or brightness (luminance) of this reflected sunlight effect. Please also discuss the anticipated level of brightness (luminance) of the glow emitted by the solar boilers.

BACKGROUND

Staff requests additional information to assist in evaluating potential cumulative visual impacts.

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DATA REQUEST

107. Please provide a map depicting alternative routes of the proposed Desert Xpress Train in the broad ISEGS vicinity; and boundaries of the proposed Ivanpah Valley Airport and Table Mountain Wind Energy Facility.
108. Please discuss any permit applications or publicly announced proposals for future urban development in the wider Ivanpah Valley and I-15 corridor.
109. Please provide a list of other solar and wind development projects known to be under consideration within 30 miles of the project.

BACKGROUND

Section 5.13.4.4.6 (p.5.13-29) states that construction could occur 24 hours a day, 7 days a week, at certain periods of project construction. Staff needs an estimate of the duration of these 24/7 construction periods so it can evaluate the potential for nighttime construction glare impacts.

DATA REQUEST

110. Please discuss the anticipated duration of the 24/7 construction periods for the three project phases.

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Technical Area: Waste Management

Author: Christopher Dennis, P.G. (CEC) and George Meckfessel (BLM)

BACKGROUND

The project proposes discharging secondarily treated wastewater from package treatment systems to the power plant landscaping. There will be a package treatment system associated with each of the three heliostats proposed and a larger package treatment system at the administration building area.

DATA REQUEST

111. Please develop and submit a draft Wastewater Discharge Plan for the smaller heliostat package treatment systems and the larger administration building package treatment system. This Plan should include but not be limited to:
- a) piping diagrams
 - b) whether the discharge from each treatment system will be to the surface or below ground
 - c) if discharge is to the surface, then please describe:
 - the sprinkler/drip system type, coverage, and volume, including illustrating figures, and
 - surface area potentially affected by sprinkler/drip spray during seasonal high winds and during daily average winds
 - d) mitigation and notification procedures in the event of broken lines and/or broken sprinklers/drip nozzles
 - e) control measures to ensure no offsite discharge of effluent wastewater
 - f) structural and mechanical details about the “package treatment system” for each heliostat and for the larger package system that will be located near the administration building. These details should include but not be limited to treatment process diagrams and influent treatment capabilities
 - g) please numerically describe the physical and chemical characteristics of the water quality and organic and inorganic constituents, including trihalomethanes, after treatment by each package treatment system (i.e., the effluent discharge). This description should at a minimum include all the analysis that would be required by the RWQCB as part of the routine effluent discharge monitoring
 - h) please discuss the influent and effluent monitoring requirements associated with each package treatment plant and discharge of secondarily treated water to the power plant landscaping

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- i) a detailed discussion of how the wastewater discharge from each package treatment system would comply with California Title 22 wastewater discharge requirements.

BACKGROUND

Please review the letter dated October 25, 2007, by the RWQCB posted on the CEC project webpage. Item 2 discusses the use of concrete lined surface impoundments for emergency wastewater discharge. Item 3 of this letter outlines several requirements for using treated domestic wastewater for landscaping.

DATA REQUEST

- 112. Please discuss in detail the following regarding the two concrete drying beds mentioned in section 2.2.7.4.4 (Drying Beds) of the AFC:
 - a) what is the quality of water expected to enter these beds?
 - b) what is the volume of water expected to enter these beds?
 - c) how often are these beds expected to be used?
 - d) how long is the water expected to remain in the beds?
 - e) what is the percentage or ratio of water expected to evaporate from the beds versus water percolating (if the beds have some degree of permeability).
 - f) why were concrete lined as opposed to unlined beds chosen?
- 113. Please discuss the RWQCB regulations and requirements applicable for water discharged from each package treatment system to the power plant landscaping.
- 114. Discuss how the proposed treatment systems would comply with RWQCB regulations and requirements.
- 115. Provide a schedule of when the requirements outlined in the October 25, 2007 RWQCB letter will be fulfilled and a copy of any application or report submitted to either the California Department of Health Services, RWQCB, or San Bernardino County Department of Health Services.
- 116. Summarize any discussions to date with the RWQCB regarding the use of domestic wastewater for landscaping.

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE
STATE OF CALIFORNIA**

APPLICATION FOR CERTIFICATION
FOR THE *IVANPAH SOLAR ELECTRIC
GENERATING SYSTEM*

Docket No. 07-AFC-5

PROOF OF SERVICE
(Revised 12/7/2007)

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-5
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DECLARATION OF SERVICE

I, Maria Sergoyan, declare that on December 12, 2007, I deposited copies of the attached Data Requests 1 Through 116 the Ivanpah Solar Electric Generating System Project (07-AFC-5) in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

Original signed in Dockets

Maria Sergoyan